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Form Approved
OMB No. 0704-0188

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1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
01 JUN 2011	**N/A**	**-**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Idea: An integrated data exchange and archival system.	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
Baker W., Clayton N. J., Batchinsky A., Cancio L. C, Salinas J.,	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER
United States Army Institute ofSurgical Research, JBSA Fort Sam houston, TX	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**UU**	**2**	

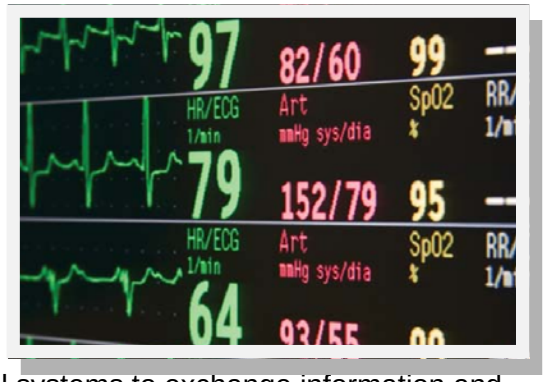
Integrated Data Exchange and Archival (IDEA)

Status

Title: Integrated Data Exchange and Archival System

Developers: Jose Salinas, William Baker, Andriy Batchinsky and Leopoldo C. Cancio

The Army is seeking a partner interested in commercializing this technology.



The Technology:

Lack of interoperability between medical devices has consistently been one of the main challenges for implementing next generation medical decision-support systems. The inability of medical systems to exchange information and data severely limits the ability of advanced algorithms to effectively process data streams from different sources. This data exchange is needed to make meaningful decisions for many aspects of patient care. The development of new standard communication, interface, and data exchange protocols is therefore critical to advancing medical decision-support software.

The IDEA system provides both a hardware and software middleware layer to third-party software applications that require data from multiple medical devices in order to operate as designed. The IDEA system uses a client/server model and standardized data exchange protocol to allow third-party software to abstract medical device hardware details away from the software application and move those details to the IDEA server/system. As such, the IDEA system provides an open standards approach to interface with diverse medical devices and patient data. This enables third-party software developers to focus on decision-support algorithms as opposed to hardware-dependent details, which are nonstandard and subject to change by device manufactures.

Application:
The system can be used in any clinical or research setting where patient data collection and analysis is needed. Such applications include the development and implementation of medical decision-support software systems. FDA MDDS validation and registration are expected in September 2012.

Benefits:
- Software available for transfer to a commercial partner.
- Common interface and interoperability protocol for medical devices.
- Continuous data capture/archival of data generated by sensors and devices.
- Minimizes hardware requirements and difficulties in device interfacing.
- Provides data distribution services to enable real-time analysis software.
- Uniform interface to simplify development of third-party analysis software.

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